

**Advanced Higher Maths
SQA 2019 Specimen
Paper 2 Question 10**

Given $y = x^{2x^3+1}$ where $x > 0$, find $\frac{dy}{dx}$.

Write your answer in terms of x .

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Answer:

$$\frac{dy}{dx} = x^{2x^3+1} \left(6x^2 \ln x + \frac{2x^3+1}{x} \right)$$